



ACOUSTI-  
CELOTEX



The Moody Memorial Church, Chicago. Fugard & Knapp, Architects. J. H. Johnson, General Contractor.  
Type "D" Acousti-Celotex on entire main ceiling area.  
Type "C" Acousti-Celotex in lunettes and on choir ceiling.

# ACOUSTI-CELOTEX

used in buildings of all types  
for acoustical and sound quieting purposes

A P R O D U C T O F

THE CELOTEX COMPANY  
645 North Michigan Avenue  
CHICAGO

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By Wm. G. Kreicker & Co., Chicago

# Partial list of some of the more important Acousti-Celotex installations

Project	Location	Architect
Milwaukee Auditorium.....	Milwaukee, Wisconsin.....	Judell & Bogner
Municipal Auditorium.....	St. Joseph, Missouri.....	Eckel & Aldrich
Municipal Auditorium.....	Dallas, Texas.....	Lang & Witchell
Liberty Auditorium.....	El Paso, Texas.....	W. E. Robertson
Providence Lying-In Hospital.....	Providence, R. I.....	Stevens & Lee
St. Lukes Hospital No. 1 — No. 2.....	New Bedford, Mass.....	Stevens & Lee
A. T. & S. F. Hospital.....	Albuquerque, N. M.....	Guy. A. Carlander
Royal Victoria Montreal Maternity Hospital.....	Montreal, Quebec.....	Stevens & Lee
Bradenton Bank & Trust Company.....	Bradenton, Florida.....	Georgia Show Case Co.
Federal Reserve Bank.....	Cleveland, Ohio.....	Walker & Weeks
Pioneer State Bank.....	Chicago, Illinois.....	K. M. Vitzthum & Co.
First National Bank.....	Kansas City, Missouri.....	Wight & Wight
Detroit Free Press.....	Detroit, Michigan.....	Albert Kahn, Inc.
Milwaukee Journal.....	Milwaukee, Wisconsin.....	Frank D. Chase, Inc.
Board of Trade.....	Kansas City, Missouri.....	McKecknie & Trask
Swift & Company.....	St. Joseph, Missouri.....	Swift & Co., Eng. Dept.
Lyon & Healy Office and Studio.....	Chicago, Illinois.....	F. B. Schmidt
Sante Fe Office Building.....	Topeka, Kansas.....	Sante Fe Eng. Dept.
C. B. & Q. Offices.....	Chicago, Illinois.....	Houck & Smenner
Sound Testing Laboratory — Jefferson Electric Company.....	Chicago, Illinois.....	Jefferson Elec. Co.
Signal Apparatus Room — Boston Fire Department.....	Boston, Massachusetts.....	O'Connell & Shaw
Radio Testing Laboratory — Stewart-Warner Speedometer Co.	Chicago, Illinois.....	Stewart-Warner Eng. Dept.
Target Room Police Department.....	Detroit, Michigan.....	Albert Kahn, Inc.
Meridian School.....	Wichita, Kansas.....	Lorentz Schmidt & Co.
Central Junior High School.....	Kansas City, Missouri.....	Chas. A. Smith
Mishawaka High School.....	Mishawaka, Indiana.....	Perkins Fellows & Hamilton
North Side High School.....	Memphis, Tennessee.....	C. O. Pfeil & G. Awsumb
Southwestern University.....	Memphis, Tennessee.....	Henry C. Hibbs
El Dorado High School.....	El Dorado, Arkansas.....	Thompson & Harding
North Junior High School.....	Waltham, Massachusetts.....	Chas. G. Loring
High School Auditorium.....	Haynesville, Louisiana.....	Edward F. Neild
Baptist Temple.....	Rochester, New York.....	Gordon & Kaelber
Machine Room, Geo. Batten Co.....	New York.....	Geo. Batten Co.
North Side Junior High School.....	Richmond, Virginia.....	Chas. M. Robinson
Broadcasting Studios — Consolidated Gas, Elec. Lt. & Pr. Co.	Baltimore, Maryland.....	Company Eng. Dept.
Broadcasting Studios — Edison Electric Illuminating Co....	Boston, Massachusetts.....	Company Eng. Dept.
Loyola Church.....	Denver, Colorado.....	Mountjoy & Frewen
Monarch Mfg. Co. Radio Studio.....	Council Bluffs, Iowa.....	Anderson & Spooner
Temple Beth Israel.....	Houston, Texas.....	Joseph Finger
St. Peters Church R. C.....	Omaha, Nebraska.....	John Latenser & Son
Rodfei Zeidek Temple.....	Chicago, Illinois.....	A. Epstein
Sixth Church of Christ, Scientist.....	Kansas City, Missouri.....	Chas. A. Smith
First Presbyterian Church.....	Detroit, Michigan.....	Smith, Hinchman & Grylle
Central Union Church.....	Honolulu, Hawaiian Islands.....	Cram & Ferguson
Moody Church.....	Chicago, Illinois.....	Fugard & Knapp
Temple B'Nai Jeshurun.....	Cleveland, Ohio.....	Charles R. Greco
Lowell District Court House.....	Lowell, Massachusetts.....	Chas. K. Grace
Scottish Rite Cathedral.....	Nashville, Tennessee.....	Asmus & Clark
Scottish Rite Cathedral.....	St. Louis, Missouri.....	Wm. B. Ittner Co. Inc.
Jewett Radio & Phonograph Studio — Book Cadillac Hotel.....	Detroit, Michigan.....	Smith, Hinchman & Grylle
Beaumont High School.....	St. Louis, Missouri.....	Board of Education
East High School.....	Denver, Colorado.....	Geo. A. Williamson
U. S. National Bank .....	Portland, Oregon .....	A. E. Doyle
Municipal Auditorium.....	San Antonio, Texas.....	{ A. B. & R. M. Ayers— G. Willis—E. Jackson

# ARCHITECTURAL ACOUSTICS

THE architect no longer need approach the design of an important building containing an Auditorium with a feeling of uncertainty about the hearing conditions in the finished structure; he need not await completion to determine whether the acoustics are good or bad; he need not make sacrifices in proportion in order to copy some existing hall known to have good qualities; he need have no objectionable restraint in interior decoration. The science of acoustical analysis and design, and the art of manufacture and application of sound absorbing materials, as now developed, make it entirely practicable to design and specify acoustical treatment with assurance of obtaining definitely pre-determined and measurable results.

## A Brief Statement of the Theory of Sound

Sound vibrations are transmitted from the point of origin, through the air or other media. These vibrations progress in concentric spheres, with the intensity diminishing until the sound becomes inaudible. This condition is approximated in the open air, but when encompassed in a room the vibrations quickly strike the walls, ceiling and floor.

When a sound vibration impinges on a surface, a part of the energy is reflected and a part is absorbed. The reflected portion reverberates from surface to surface, losing a part of its energy with each impact until its intensity is below the limit of audibility. The number of contacts necessary to reduce it to this stage depends on the percentage absorbed at each impact. Sound travels in air, at the average rate of 1100 feet per second regardless of its intensity and volume. With a given percentage of absorption, the length of time that the energy will persist depends on the average distance between the reflecting surfaces.

From the foregoing, it follows that the absorption co-efficients of the surfaces and the dimensions of the room are important factors in the problem. Reverberation will cease more quickly with highly absorbent surfaces, and more quickly in small than in large rooms.

What happens to one element of a sound sphere applies also to every other element and to each succeeding emanation of sound. A sound may persist for 5 to 15 seconds. Considering each spoken syllable as a separate sound and the speed of diction from two to five syllables per second, it is evident that there may be from 10 to 75 sounds in a room at one instant. This overlapping or reverberation is the primary condition that must be controlled to permit the original sounds to reach the ear distinctly. This is accomplished by using sound absorbing surfaces of such materials and in such quantities as required by each specific case.

Although the fundamental principles here outlined have been established for a long time, it is only during recent years that constants have been determined and formulas developed for the practical solution of the many problems in Architectural acoustics. The data now available enable one to compute the reverberation period for any given set of conditions as expressed by plans or by the actual structure. Study of existing rooms having satisfactory hearing conditions has led to definite values of the reverberation periods that are desirable for audition. Thus it has become practicable to determine accurately, the quality and amount of treatment required.

The determination of the number of absorbing units required does not constitute the entire solution of the problem. There must be taken into account, curved surfaces which tend to concentrate sound; stage opening and stage spaces with their scenery and other equipment; spaces under balconies, which have some characteristics of separate rooms. It is also necessary to consider co-ordination with interior decorations; preservation of suitable resonance; obstructions in path of sound from speaker to auditor; influence of absorption of sound by audience and furnishings; and possibly other factors. Some of these items involve computations and others are determined by the good judgment developed from experience.

## Scientific Acoustical Analysis

## Form and Proportion Introduce Minor Factors

## Sound Absorbing Materials

The scientific development of acoustical analysis has outstripped the art of manufacture and application of materials suitable for this work. The materials of construction commonly used for the surfaces of interiors, consisting of plaster, stone, concrete and wood have very small absorbing power. It is only within the past few years that special materials have been offered for this purpose. Three classes of special materials have practical value: (a) earthy materials in the form of tiles and plasters, which have only sufficient value to make them available in very few situations;

(b) Soft felts made of animal hair or other materials, which have higher absorption co-efficients than earthy materials with varying merits as to practical utility;

(c) Acousti-Celotex.

## Acousti-Celotex

The best sound absorbing material for Architectural work is Acousti-Celotex, a board made by felting the fibres of sugar cane; the same basic material as Celotex Insulating Lumber, which is revolutionizing and greatly augmenting the thermal insulation of buildings. Its natural value as a sound absorbent has been greatly increased by special treatment, developing a co-efficient up to 55%. The remarkable increase above the normal absorption is obtained by drilling holes into the Celotex, thus adding about 150% to the absorbing area. This drilling is done with special machines carrying 100 drills,  $\frac{1}{4}$  inch in diameter in an area 6 inches square and 400 drills in an area 12 inches square.

**Type A** is  $\frac{1}{8}$  inch thick, with holes drilled to a depth of  $\frac{3}{4}$  inch. It is applied with the plain side exposed to the sound and is used only in the few cases where the scheme of interior decoration precludes the use of Type B.

**Type B** is also  $\frac{1}{8}$  inch thick and is installed with the drilled surface exposed to the sound.

**Type C** is made of single thickness Celotex with holes drilled through. It requires a hollow space back of it not less than  $\frac{1}{2}$  inch.

**Type D** is specially prepared Celotex Standard Building Board cut to proper sizes for use in connection with other types of Acousti-Celotex.

The selection of the type to be used is a part of the acoustical analysis and is influenced by the proposed decorative treatment and the structural conditions.

Acousti-Celotex is made in slab or tile form in sizes 6" x 12" and multiples up to 12" x 24". The preferred sizes are 12" x 12" and 6" x 12".

Acousti-Celotex is applied by **Application** nailing to wood grounds or wood furring strips, or by cementing to a suitable base of plaster or masonry, or by nailing with square cut nails to gypsum plaster surface. (See Acousti-Celotex Specifications, File A. I. A. 39 b.)

Thousands of existing buildings are unsatisfactory in their acoustic properties. They can be treated as readily as new ones.

## For Old Buildings as well as New

Acousti-Celotex can be applied to any kind of wall and ceiling surface without disturbing the interior construction. Original or existing decorative effects can be re-produced on the Acousti-Celotex surface.

It is important to emphasize that any type or size of interior with faulty or unsatisfactory acoustics can be effectively corrected with Acousti-Celotex. The Celotex Company solves acoustical problems and provides instruction for proper procedure.

There are two classes of rooms which require acoustical treatment, viz:

## Treatment For Audition and for Quieting

(a) Where people are assembled to hear music or speaking.

The best possible hearing conditions are desired in this class. To have these conditions the reverberation must be reduced to the proper period, but the absorbing material must not be of such character as to make the room "flat" or "dead." Resonance must be preserved and there must be retained enough reflected energy to carry the sounds to the full limits of the room. In this class are: Auditoriums, Churches, Theatres, School Rooms, Music Rooms, Court Rooms, Lodge Halls, Railway Stations, etc.

(b) Where people, at work, requiring mental application, are subjected to disturbing noises. The general principles involved are the same for both classes, but the extent of the treatment differs.

Where quieting is the motive, the treatment should eliminate all reflected sound as fully as possible, especially the higher frequencies found in office noises. In this class are: Banks, Computing rooms, Typing Rooms, Restaurants, Billiard Halls, Printing Press Rooms, Composing Rooms, Offices, Hospitals, Radio Broadcasting Studios, etc.

### Benefits of Acoustical Treatment

That perfect audition is desirable is self-evident. Fair, mediocre, even poor audition has been tolerated because there seemed to be no dependable cure. Good hearing conditions can now be assured and tolerance of bad conditions is inexcusable. A good Auditorium now attracts attention, which means that it attracts business. As good ones become available, the poor will suffer loss of patronage. Certainly the owner of a building, old or new, should have the most advanced treatment in acoustical correction as well as in other features of his building, to protect his property from becoming obsolete.

In the field of sound quieting the economic aspect is equally or even more important. Efficiency and accuracy cannot always be measured in money, but everyone knows that it has substantial value, and everyone knows that high efficiency cannot be attained in a noisy room. To this must be added the health of the workers, for many nervous breakdowns have been caused by noise.

### Advantages of Acousti-Celotex

Acousti-Celotex is the most practicable and available material for acoustical control. It is efficient and scientifically correct as a sound absorbent; easy to apply; valuable as a decorative material and suitable as a base for color work. Acousti-Celotex is permanent and may be specified in amount and location indicated by proper analysis of each specific case, so as to produce results that have been computed in advance and which can be measured after installation. It will retain a proper degree of resonance and purity of tone as proved by an ample number of successful installations.

The cost of an Acousti-Celotex installation is

## DECORATING ACOUSTI CELOTEX

One of the most striking merits of Acousti-Celotex is its adaptability to decorative treatment:

- (a) It is attractive in its natural color.
- (b) Oil paints can be successfully used on Acousti-Celotex, Types B and C without impairing the acoustical properties.
- (c) Color in the form of stains, dyes, and water colors may be applied to all types of Acousti-Celotex by brushing or spraying over the entire surface, or by stencilling patterns on the natural surface.

The architectural design of the ceiling and walls need seldom be modified to accommodate Acousti-Celotex as it can be fitted to panels of any shape and can be made to conform to areas of single or

reasonable for the results attained. Acousti-Celotex is without a peer in its field.

In making analyses and specifications for acoustical treatment The Celotex Company uses the formulas and data developed by the late Prof.

### No Charge for Acoustical Service

Wallace Sabine of Harvard University, Prof. F. R. Watson of the University of Illinois, as well as from texts by English and German authorities. It uses the absorption co-efficients of Acousti-Celotex determined by Prof. Watson. With a corps of trained men, equipped with the most complete compilation of scientific data, the Acoustical Division of The Celotex Company is the best source for analyses, specifications, information and advice in Architectural Acoustics.

To assure satisfactory results where its material is used and to insure the owner against error and the cost of treating excessive areas, the Company offers this service without charge. Architects and Owners are invited to submit their inquiries. Complete plans and specifications of the building are desired if available. For existing buildings, The Celotex Company will co-operate in getting the necessary data.

### Sales Basis

The Celotex Company prepares analyses and specifications gratis for every inquiry submitted. It then sells the proper amount of Acousti-Celotex with the assurance that certain stated results will be obtained. Approved Acousti-Celotex Contractors are located throughout the country. Responsible building contractors are competent to make installations of Acousti-Celotex.

Quotations can be obtained from either of the above sources, or direct from The Celotex Company and its branch offices.

double curvature. Its use does not interfere with cornices, ceiling beams, pilasters, skylights, ventilators or other features. The areas used can be varied slightly, when necessary, to conform to the areas available. The architect may generally elect whether the treatment shall be on ceilings or side walls, or both. He may select the size of tiles and the patterns in which they shall be laid.

The color plates as shown in this book are from working drawings of actual installations of decorated Acousti-Celotex and point to the unlimited possibilities of color design on this material. It should also be mentioned here that the decorating by means of stencils as illustrated is likewise applicable to Celotex Standard Building Board.

THE Great Chicago Methodist Temple in the heart of the "loop" district, built as a monument to religion amid the strife and turmoil of business.

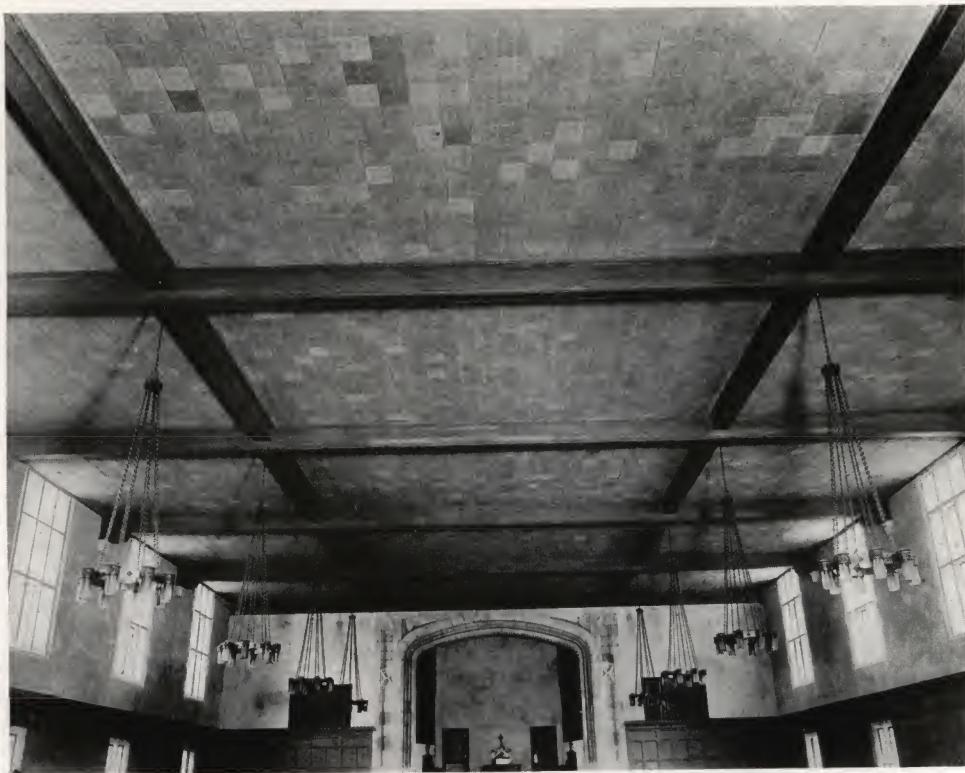
The Temple was designed by Holabird & Roche, Chicago Architects, and the Acousti-Celotex treatment as shown below, beautifully decorated by Alexander Rindskopf, also of Chicago.



Interior of Chicago Methodist Temple. Architects Holabird & Roche, Chicago, Ill.  
Acousti-Celotex Type D, decorated, in all panels on main  
ceiling and ceiling under balcony.



Decoration on Celotex used at the display booth of The Celotex Company, at the Architectural and Allied Arts Exposition, Grand Central Palace, New York City, faithfully reproducing in color and form, motifs from the Davanzati Palace in Florence, in early Renaissance.



G. M. Nealy Memorial Auditorium, Vanderbilt University, Nashville, Tenn.  
Acousti-Celotex, Type B, natural finish, on ceiling panels.  
Henry Clay Hibbs, Architect, Nashville, Tenn.

**B**AD acoustical conditions in the meeting room of the St. Louis Board of Public Service made satisfactory meetings impossible. E. R. Kinsey, president of the Board, after analysis by The Celotex Company, contracted for Acousti-Celotex on a basis of "no cure — no pay."

"Lo, one could hear," said the St. Louis Post Dispatch after the first meeting under the Acousti-Celotex conditions.

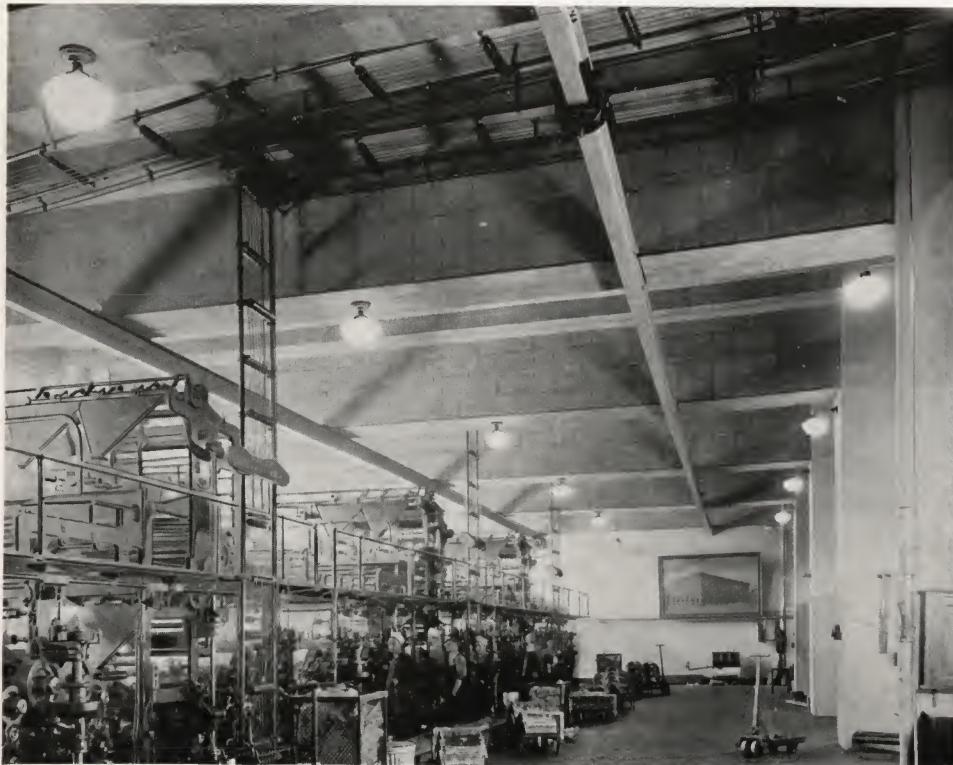
OUR Universities of today are demanding perfect acoustics in their assembly auditoriums and chapels. Having laboratories, departments of engineering and physics for research investigations of different acoustical materials, the adoption of Acousti-Celotex carries the endorsement of competent scientific authority.



Meeting Room of the Board of Public Service, City of St. Louis, Mo.  
Acousti-Celotex in natural finish, Type B on ceiling  
and Type A Ashlar pattern on walls.



Municipal Auditorium, Memphis, Tenn., seating 12,800 persons. Acousti-Celotex Type B on ceilings and Acousti-Celotex Type A on walls in Ashlar pattern, natural finish.  
Messrs. Chas. O. Pfiel and George Awsumb, Architects, Memphis, Tenn.



Acousti-Celotex Type B in natural finish on ceiling and beams of press room,  
Milwaukee Journal, Milwaukee, Wis. Frank G. Chase, Inc.,  
Architect and Engineer, Chicago, Ill.

**A** COUSTI - CELOTEX reinforces the carrying capacity of the voice and instrumental music in a large interior. This auditorium is almost four hundred feet long and seats 12,800 persons. John Philip Sousa pronounced it the most wonderful auditorium in the world for band music. Jeritza marvled at the tone quality of her voice when singing there. Billy Sunday, who possesses a voice of less volume than the average public speaker, was heard clearly and distinctly even from the farthest seats.

**T**HE press room of the Milwaukee Journal is scientifically treated with Acousti-Celotex, the super noise-destroyer of the age. The excessive crash and roar of the press room is absorbed.

With the relief from nerve-strain, pressroom employes benefit greatly in health and efficiency.

FAULTY acoustics actually persecute the leader of a congregation. Inspirational freedom, certainty of delivery, sympathetic response proceeding from good voice intonation and inflection; forceful thought sequence - all are denied the speaker.

Acousti - Celotex clears the interior of a church from sound traffic and disperses the jam of echo and reverberation — the road for perfect voice delivery is unobstructed. Speaker and music are heard without effort or strain.



Central Union Church, Honolulu, T. H. Acousti-Celotex on barrelled vault ceiling and also on ceiling over aisles in Type B; all decorated in flat white.  
Messrs. Cram & Ferguson Architects; Boston, Mass.

THE mental workshop of a newspaper operates under the terrific pressure of time, during the few hours allotted each day to its gigantic task. Nature provided us with a hearing sense that is not disturbed by incidental or original sounds, but which leaves us helpless when exposed to accumulated sounds in an enclosure.

Acousti - Celotex prevents noise distraction and accumulation and also softens the original sound. The working hours end refreshingly without undue mental and physical fatigue.



Editorial Department, Detroit Free Press, Detroit, Mich.  
Acousti-Celotex, Type C, on ceiling in natural finish.  
Albert Kahn, Inc., Architect, Detroit.

LODGES and fraternal societies conduct services that are often religious in character. Impressive quiet, dignity of surroundings and forcefulness in ritual are made possible by the proper use of Acousti-Celotex.

The interior pictured here includes all of these essentials and has been widely commented upon as an unusually successful meeting hall.



Showing Acousti-Celotex Type A Ashlar pattern in natural finish on walls of Scottish Rite Cathedral, St. Louis, Mo. Acousti-Celotex Type B also on all ceiling panels. Wm. B. Ittner Co., Inc., Architects, St. Louis, Mo.



Acousti-Celotex Type B on ceiling of the Auditorium of North Side High School, Memphis, Tenn., Charles O Pfiefl and George Awsumb, Architects, Memphis, Tenn.

THIS interior has a full correction so that conditions are ideal for rehearsals, practice hours, study purposes, and overflow class room use, besides providing perfect hearing qualities with any number of seats occupied.

Acousti-Celotex is used in its natural finish, and being of Type B, it can be attractively and inexpensively decorated at any time with any kind of paint or color without disturbing its acoustical value.



Federal Trust & Savings Bank, Hollywood, California. Architects, Morgan, Walls & Clements, Los Angeles. Acousti-Celotex Type D on ceiling. Decoration by Arenz-Warren Inc., Los Angeles, California, as shown below.

Particularly pleasing and helpful is the decorative design in warm and glowing colors, cheerfully contrasting the coldness and lack of suggestive welcome in the bank of yesterday. Acousti-Celotex provides a texture inspiring freedom in color design.



Left: Detail of aisle ceiling Federal Trust & Savings Bank

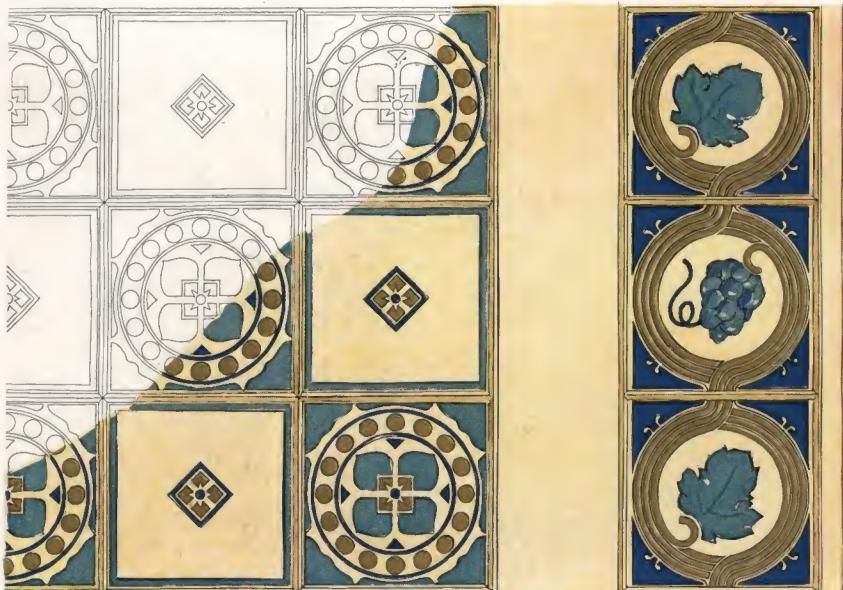


Above: Detail of main ceiling decoration. Federal Trust and Savings Bank.

WHO would think that an acoustical or sound decaying material could be effective enough to satisfactorily prevent the accumulation of outside noises after they had entered an office? Acousti-Celotex, Type B, used on the ceiling, successfully solved this problem for Mr. Healy. It has the added value of adaptability to decoration as shown below.



Private Office of Marquette A. Healy, President, Lyon & Healy, Chicago, Illinois.  
Acousti-Celotex Type B decorated on ceiling, as shown below.



After six months occupancy of the room shown above, Mr. Healy writes:

"It has, I believe, eliminated the noise fully half, and even when the windows are open and the racket from the elevated trains is at its worst, this room is a great deal quieter than the adjoining rooms whose ceilings are of the regular plaster type.

"The absence of noise so obtained makes conversation much easier and pleasanter, and I believe one is less fatigued at the end of a day's work."

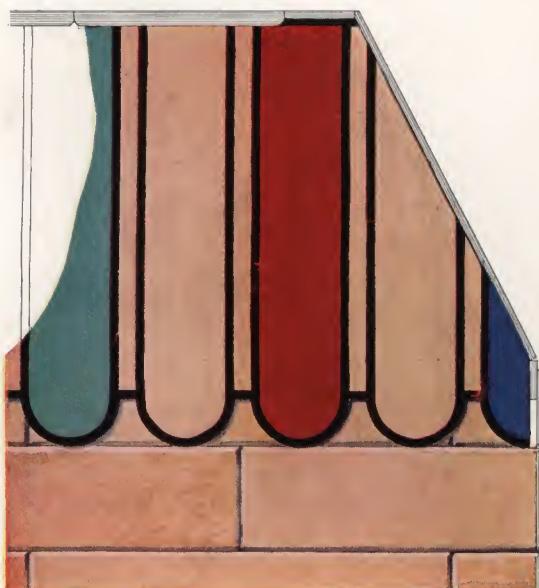


Radio Broadcasting Studio of Stewart-Warner Speedometer Corporation, Chicago, Ill. Acousti-Celotex Type B decorated, on ceiling, and Acousti-Celotex Type D in Ashlar pattern, on walls. The awning effect on upper part of walls consists of Celotex Standard Building Board, decorated.

**A**COUSTI - CELOTEX was awarded a Silver Trophy at the Third Annual Radio Convention at Chicago in 1924 and similarly honored at the New York Radio Show of 1925. This unique and exclusive testimonial points to the value of this material to Science. Acousti-Celotex absorbs the residual and overlapping sound waves effectively and at the same time maintains full resonance and brilliancy; all without reduction of tone purity or change of tone quality.



Above: Detail of ceiling decoration.



At left: Detail of wall decoration.

At right: Detail of mural on wall.



THIS interior presents the first example in making possible the successful broadcasting of pipe organ music.

In this moderately sized room, Acousti-Celotex has contributed clearness of expression, the organ being played as in a church or large auditorium, its filtered tones going out on the air clearly and distinctly without echo, blasting or other disturbances.



Pipe Organ Radio Broadcasting Studio of Lyon & Healy, Chicago, Ill.  
Architect, Frederic B. Schmidt, Chicago. Acousti-Celotex Type  
B, decorated, on ceiling, as here shown.



The ceiling of Acousti-Celotex in Type B with closely abutted joints carries very gracefully the stencil decorative design in Japan colors, here shown.

The Adam expression was carried out with the utmost freedom, the texture of the Acousti-Celotex providing an unusually effective field. Celotex also used on side walls.



Radio Broadcasting Studio of Nelson Bros., Bond & Mortgage Company, Chicago, Ill.  
Acousti-Celotex Type B decorated, on ceiling, and Acousti-Celotex Type D in Ashlar  
pattern, on walls, in natural finish. Designed by the Service Department,  
The Celotex Company.

This ceiling design in the studio of Nelson Bros., shown above, is characteristic of Florence of the XIV Century and is true to the original model both in color and in drawing.

ARTISTS who perform in Acousti-Celotex Studios all testify to a remarkable clearness of voice and intonation, encouraging them to do their best work.

In successful radio broadcasting studios, the acoustical requirements are more severe than in any other type of room. Sounds of all pitches and variations of intensity must be preserved and transmitted without distortion. Complex problems of this character are solved by the use of Acousti-Celotex.



IN this charming Country Club the application of Acousti-Celotex Type D, to the walls and ceilings has contributed three important benefits;

(a) Thorough insulation against the heat of summer and the chill of winter; providing all-year comfort.

(b) Acoustics so perfect that the club is sought for musicals, lectures and other entertainments in preference to theaters and other meeting rooms in the community.

(c) An unusually pleasing decorative effect.



Interior of Oakmont Country Club, Glendale, Calif. Charles Cressey, Architect, Glendale, Calif. Acousti-Celotex Type D used on ceiling and walls; decorative effect as shown without color.



This XIV Century decoration of Early Renaissance is reproduced on the Celotex walls of the Bethany Girls Home in Chicago.

These designs and color schemes show the unlimited possibilities of decorating Celotex and Acousti-Celotex in any manner desired.



Federal Reserve Bank, Cleveland, Ohio. Walker & Weeks, Architects.  
Geo. P. Little & Co. Inc., Approved Acousti-Celotex Contractors.  
Type "C" Acousti-Celotex on entire ceiling.

A. I. A. File Number 39 b

## THE CELOTEX COMPANY

CHICAGO, ILLINOIS

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T. A. BURT.....	<i>Urbana, Illinois</i> Banker
J. W. THOMPSON.....	<i>St. Louis, Missouri</i> Railroad Contractor
LEE B. EWING.....	<i>Nevada, Missouri</i> Director and General Attorney
Farm and Home Savings & Loan Association of Mo.	
EDWIN F. GUTH.....	<i>St. Louis, Missouri</i> President, The Edwin F. Guth Company Director, Jefferson Bank

# Products of The Celotex Company



## CELOTEX STANDARD BUILDING BOARD

Thickness approximately  $7/16$ "; average weight 60 lbs. per 100 sq. ft.; width 4 ft.; lengths 8 to 12 ft.

A felted and waterproofed cane fibre board with heat insulating value of 0.33 B. t. u. per hour per sq. ft. per deg. Fahr. per inch thickness. Its strength in wall sections is greater than horizontal pine sheathing. It has a higher sound insulation value than standard deadening felts.

### *Principal Uses*

- A. Sheathing (and insulation) for frame, stucco and brick veneer buildings, replacing wood sheathing.
- B. Under plaster (and as insulation) replacing lath or plaster board.
- C. Floor and wall sound deadener.
- D. Interior and exterior wall finish. Can be painted or stained or left natural. (See specifications—"Celotex Standard Building Board." A. I. A. File 37 a 1.)

## CELOTEX INDUSTRIAL BOARD

Thickness approximately  $1/2$ "; average weight 58 lbs. per 100 sq. ft.; width 3 ft.; length 6 ft.

Industrial Board has insulating value equal to that of Standard Building Board but less tensile strength, hence should not be used as replacement of wood sheathing; under plaster; interior or exterior finish, for which purposes Standard Building Board is especially adapted.

### *Principal Uses*

Commercial roof insulation for industrial plants, for fuel economy and the prevention of condensation on ceilings.

(See specifications—"Celotex Industrial Board." A. I. A. File 37 a 1.)

## CELOTEX INSULATION

Thickness  $1/2$ "; average weight 56 lbs. per 100 sq. ft. Manufactured in special sizes to comply with the requirements of railroad car builders and other manufacturers.

### *Principal Uses*

- A. Railroad Refrigerator Car Insulation.
- B. Steel Car Insulation.
- C. Domestic Refrigerators.
- D. Ice Storage Houses.

Address company for literature and information.

## ACOUSTI-CELOTEX

Especially manufactured for acoustical correction, including treatments for audition, quieting and sound insulation.

(See specifications—"Acousti-Celotex." A. I. A. File 39 b.)

# Products of The Celotex Company



CELOTEX STANDARD BUILDING BOARD

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Address company for literature and information.

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